

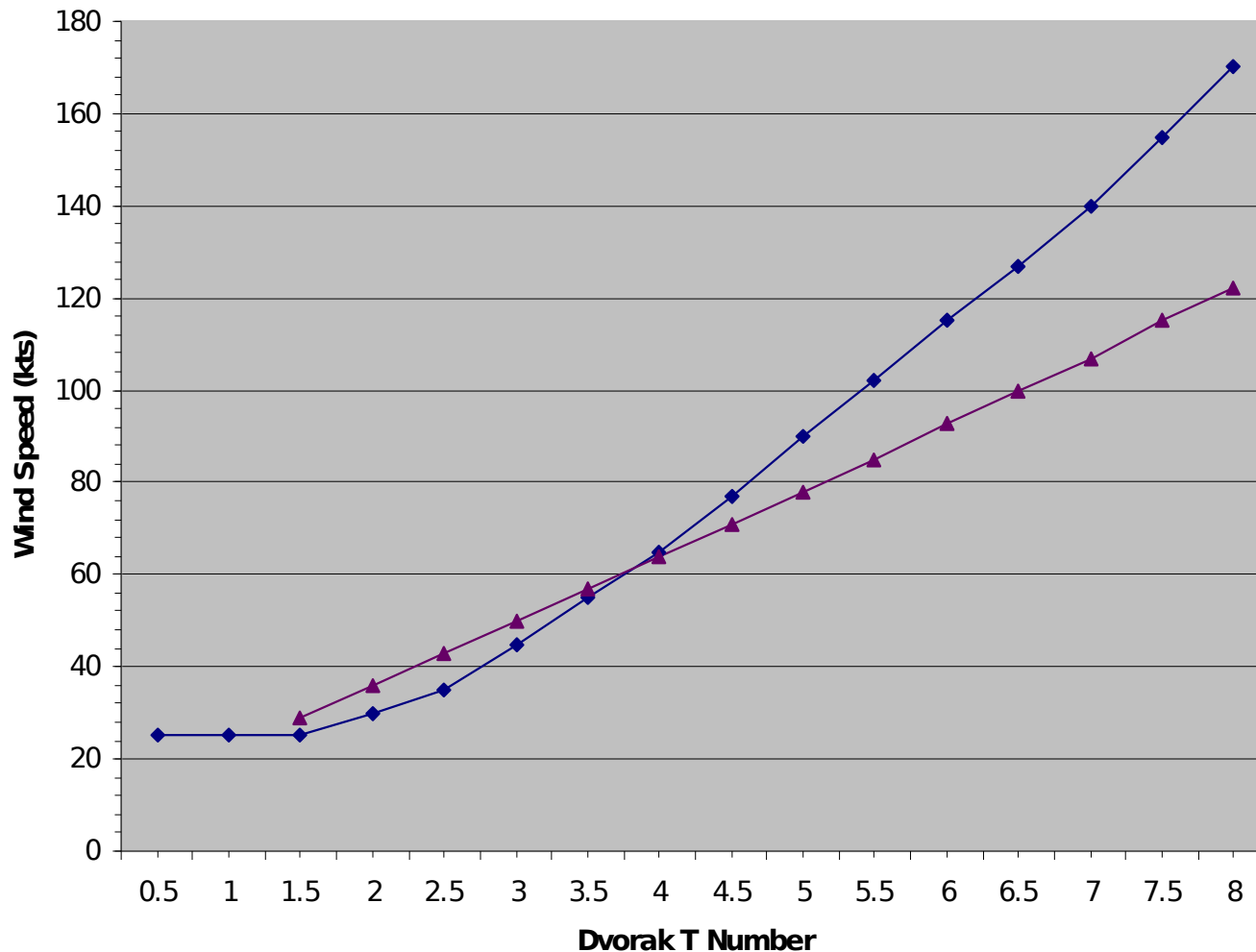
# Intensity Determination Considerations With Respect to JMA Dvorak Estimates

- Large differences frequently exist between JTWC's maximum intensity for TCs greater than 100 kts and that of other warning agencies.
  - JTWC's intensity is typically higher.
  - Atkinson (1974) used several earlier wind studies to show the average 10-minute wind speed to be approximately 88 percent of 1minute averages.
  - By using this technique JTWC has higher intensity estimates.

# JMA Dvorak T Considerations (Cont'd)

- The Meteorological Satellite Center of the Japan Meteorological Agency (JMA) also uses a modified conversion from the Dvorak T-number to Dvorak current intensity (CI) number (Osano, 1989).
  - As a result, TCs below typhoon intensity are stronger than the corresponding Dvorak technique would indicate and intense typhoons are weaker than the Dvorak values indicate.
  - Consequently, super typhoon intensity ( 130 kts) is rarely attained using the JMA conversions.

## Wind speed comparison of J TWC T number vs J MA T number



Note: Max wind speed denoted by JMA T number will be different from the JTWC and/or other U. S. fixing agencies for two reasons:

(1) JMA uses a 10-minute mean to describe max sustain wind associated with a TC

(2) JMA conducted a study of TC's that occurred close to or near Japan and correlated T-numbers with available observations. Results were used to modify max winds/T number for closer correlation to observations.\*

Osano, S., 1989: Improvement of tropical cyclone analysis with satellite data. Part 2 of paper, Estimation of typhoon intensity from meteorological satellite data, for Economic and Social Commission for Asia and the Pacific & WMO Typhoon Committee, 22nd session (30 Oct - 6 Nov 1989), Tokyo, Japan. 6 pp